

What is claimed is:

1. An abnormality determining device for a longitudinal acceleration sensor for a vehicle comprising:
  - 5 a first acceleration estimating unit for estimating a vehicle acceleration based on a wheel speed;
  - a second acceleration estimating unit for estimating another vehicle acceleration based on the throttle angle of an engine;
- 10 a determination-permission deciding unit for setting a determination-permission region based on the estimated values of the first and second acceleration estimating unit so as to output a determination-permission signal when a deviation between the vehicle acceleration estimated by the first
- 15 acceleration estimating unit and the vehicle acceleration estimated by the second acceleration estimating unit is within a predetermined value; and
  - a determining unit for setting an abnormality determining region based on the vehicle acceleration estimated by the second
  - 20 acceleration estimating unit and for determining that the longitudinal acceleration sensor is abnormal, if the output value of the longitudinal acceleration sensor exists in the abnormality determining region for a predetermined time or longer in a state that the determination-permission deciding unit outputs a
  - 25 determination-permission signal.

2. An abnormality determining method for a longitudinal acceleration sensor for a vehicle comprising steps of:

estimating a first vehicle acceleration based on a wheel speed;

estimating a second vehicle acceleration based on the throttle angle of an engine;

outputting a determination-permission signal when a deviation between the first vehicle acceleration and the second vehicle acceleration is within a predetermined value;

setting a determination-permission region based on the first and second vehicle acceleration;

setting an abnormality determining region based on the second vehicle acceleration; and

determining that the longitudinal acceleration sensor is abnormal, if the output value of the longitudinal acceleration sensor exists in the abnormality determining region for a predetermined time or longer in a state that a determination-permission signal is output.

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